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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,557	12/31/2003	Allen W. Bettner	42P17641	5707

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EXAMINER	
A, MINH D	

ART UNIT	PAPER NUMBER
2821	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/750,557	BETTNER ET AL.	
	Examiner	Art Unit	
	Minh D. A	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/30/05*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9,21-27 and 31* is/are rejected.

7)☒ Claim(s) *8,10-20,28-30,32 and 33* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 9, 21-23, 24-27 and 31 are rejected under 35 U.S.C. 102(b) as being unpatentable by Snowdon (US 5,677,698).

Regarding claim 1, Snowdon discloses slot antenna arragment for protable personal computers comprising a skin of a computing device, the skin comprising a conductive material', and a slot in the skin, said slot comprising a slot antenna(15). See figures 1-3b, col.2, lines 20-67 to col.4, lines 1-7.

Regarding claim 2, Snowdon discloses the conductive material comprises an outer layer of the skin in at least of vicinity of the slot. See figures 1-3b.

Regarding claims 3-4, Snowdon discloses the outer layer comprises one of a conductive coating and a conductive mesh. See figures 2-3b, col.2, lines 20-67 to col.4, lines 1-7.

Regarding claim 5, Snowdon discloses the slot extends through both the skin and the conductive layer. See figures 2-3b.

Regarding claim 6, Snowdon discloses the skin is made entirely of the conductive material. See figures 1-3b.

Regarding claim 7, Snowdon discloses the computing device comprises one of a notebook computer, a tablet computer, and a handheld computer. See figures 1-3b.

Regarding claim 9, Snowdon discloses a cavity behind the slot, said cavity having a depth of approximately one quarter of a wavelength of a resonant frequency of the slot antenna. See figures 1-3b.

Regarding claim 21, Snowdon discloses a tuning element coupled to the slot, said tuning element to tune a secondary frequency for the slot antenna. See figures 1-3a.

Regarding claims 22-23, Snowdon discloses wherein the tuning element comprises a stub capacitor and the slot antenna comprises a first slot antenna, the apparatus further comprising: a second slot antenna in the skin, said first slot antenna and said second slot antenna comprising a diversity antenna. See figures See figures 1-3b.

Regarding claims 24-27, Snowdon discloses a note-book computer', a skin covering at least a portion of the notebook computer, said skin comprising a conductive material', and a slot in the skin, said slot comprising a slot antenna. See figures 1-3b.

Regarding claim 31, Snowdon discloses the slot antenna comprises a first slot antenna, the apparatus further comprising: a second slot antenna in the skin, said first slot antenna and said second slot antenna comprising a diversity antenna. See figures 1-3b.

Allowable Subject Matter

2. Claims 8, 10-20, 28-30 and 32-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not disclose at least one of a base and a lid, and wherein the slot is located in at least one of an edge of the base, an edge of the lid,' an outside of the lid, an inside of the lid, through the lid, and through the base recited in dependent claim 8.

The prior art does not teach that, an impedance' plane coupled to the skin under the slot and the slot antenna has a primary resonant frequency and a secondary resonant frequency and at least one of a thickness of the skin in a vicinity of the slot, a width of the slot, a length of the slot, and a tuning element at a feed point of the slot are tuned to achieve at least one of a target impedance and a primary resonant frequency of the slot recited in dependent claims 10-20,

The prior art does not teach that, the slot antenna comprises a sector slot antenna having a directional radiation pattern recited in depend claims 28-30.

The prior art does not teach that, a skin of a computing device, said skin comprising a conductive material', a first slot in the skin, said first slot comprising a first sector slot antenna having a radiation pattern in a first direction', a second slot in the skin, said second slot comprising a second sector slot antenna having a radiation pattern in a second direction', a third slot in the skin, said third slot comprising a third sector slot antenna having a radiation pattern in a third direction', and a fourth slot in the skin, said fourth slot comprising a fourth sector

slot antenna having a radiation pattern in a fourth direction recited in independent claim 32.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ikegaya et al(US 6,847,329) and Casarez et al. (US 5,913,174) are cited to show a slot antenna.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

Primary Examiner

Examiner

Minh A

Art unit 2821

12/02/05